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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/20/2005

Peter Larsson

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NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER

NGUYEN, TUAN HOANG

ART UNIT

PAPER NUMBER

2618

MAIL DATE

DELIVERY MODE

06/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/549,908

Applicant(s)

LARSSON ET AL.

Examiner

Tuan H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-33 and 35-38 is/are rejected.
- 7) ☒ Claim(s) 7 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 02/10/2006 have been fully considered but they are not persuasive.

In response to Applicant's remark on page 7, Applicant argues that neither Palvianen (U.S. PAT. 6,662,005) nor Salin (U.S. PAT. 6,628,937) references cited by the Examiner teach a system including a check as to whether the second entity corresponds to the table of special identifications for an entire closed user group. Examiner respectfully disagrees with the Applicant argument. Applicant should refer to Salin reference (col. 4 line 43-51) where as the Examiner interpreted a system including a check as to whether the second entity (subscriber B) corresponds to the table of special identifications (read on "specific description") for an entire closed user group. Therefore, the teaching of the prior art references still read on.

Base on the above rational, it is believed that the claimed limitations are met by the combination of Palvianen and Salin and therefore, the rejection are maintained.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-4, 6-8, 10-13, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over palvianen (U.S PAT. 6,662,005) in view of Salin (U.S PAT. 6,628,937).

Regarding claim 1, Palvianen discloses a method for implementing connection access authorization between a first entity and a second entity in a communication system comprising a closed user group, the method comprising the steps of: storing a table of special identifications, wherein the table of special identifications is valid for a group of subscribers in the closed user group comprising a plurality of subscribers (col. 5 line 58 through col. 6 line 12); receiving a request for a connection between the first

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entity and the second entity, the first entity being one of the group of subscribers of the closed user group (col. 2 line 58 through col. 3 line 11). Palvianen differs from the claimed invention in not specifically teaching for a) checking whether the connection is within the closed user group; b) checking whether the connection is allowed if it crosses the border of the closed user groups; c) checking whether the second entity corresponds to the table of special identifications; and giving connection access if least one of the conditions a, b and c is true. However, Salin teaches for a) checking whether the connection is within the closed user group (col. 8 lines 5-21); b) checking whether the connection is allowed if it crosses the border of the closed user groups (Fig. 3 col. 5 line 57 through col. 6 line 45); c) checking whether the second entity corresponds to the table of special identifications (col. 4 lines 43-51); and giving connection access if least one of the conditions a, b and c is true (Fig. 6 step 645 col. 8 lines 30-36). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Palvianen for a) checking whether the connection is within the closed user group; b) checking whether the connection is allowed if it crosses the border of the closed user groups; c) checking whether the second entity corresponds to the table of special identifications; and giving connection access if least one of the conditions a, b and c is true, as per teaching of Salin, because it provides the subscriber's information on call forwarding is stored. the subscriber data base is characterized in that it is arranged to check whether call forwarding is directed to the voice mail, and to forward the call in response to the fact that call forwarding is directed

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to the voice mail, regardless of a possible bar to call forwarding due to interaction between the call forwarding facility and the closed user group..

Regarding claims 2 and 11, Salin further discloses the connection access is an outgoing access (col. 3 lines 46-52).

Regarding claims 3 and 12, Salin further discloses the connection access is an incoming access (col. 3 lines 42-46).

Regarding claims 4 and 13, Palvianen further discloses the table of special identifications is valid for all subscribers of the closed user group (col. 5 lines 58-64).

Regarding claims 6 and 15, Salin further discloses the identifications stored in the table of special identifications comprise special numbers (Fig. 8 col. 9 lines 16-40).

Regarding claims 7 and 16, Salin further discloses the identifications stored in the table of special identifications comprise time of the received connection request (col. 7 lines 58-66).

Regarding claims 8 and 17, Salin further discloses the identifications stored in the table of special identifications comprise the location of the subscriber when requesting a connection (col. 8 lines 5-36).

Regarding claim 10, Palvianen discloses a connection authorization device for implementing connection access authorization between a first entity and a second entity in a communication system comprising a closed user group, the device comprising: a table of special identifications, wherein the table of special identifications is valid for a group of subscribers of the closed user group comprising a plurality of subscribers (col. 5 line 58 through col. 6 line 12); a connection establishment which is adapted to give connection access to the first entity and the second entity, the second entity being on of the group of subscribers (col. 2 line 58 through col. 3 line 11). Palvianen differs from the claimed invention in not specifically teaching for a first checking for checking whether a requested connection is within the closed user group; a second checking for checking whether the connection is allowed if it crosses the border of the closed user groups; a third checking for checking whether the first entity belongs to the table of special identifications; and at least one of the first, second and third checking output a positive result. However, Salin teaches for a first checking for checking whether a requested connection is within the closed user group (col. 8 lines 5-21); a second checking for checking whether the connection is allowed if it crosses the border of the closed user groups (col. 5 line 57 through col. 6 line 45); a third checking for checking whether the first entity belongs to the table of special identifications (col. 4 lines 43-51); and at least one of the first, second and third checking output a positive result (Fig. 6 step 645 col. 8 lines 30-36). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Palvianen for a first checking for

checking whether a requested connection is within the closed user group; a second checking for checking whether the connection is allowed if it crosses the border of the closed user groups; a third checking for checking whether the first entity belongs to the table of special identifications; and at least one of the first, second and third checking output a positive result, as per teaching of Salin, because it provides the subscriber's information on call forwarding is stored. the subscriber data base is characterized in that it is arranged to check whether call forwarding is directed to the voice mail, and to forward the call in response to the fact that call forwarding is directed to the voice mail, regardless of a possible bar to call forwarding due to interaction between the call forwarding facility and the closed user group..

Regarding claim 18, Salin further discloses a information extracting adapted to communicate with a data base which decodes information included in the connection request and supplies the information to the first checking which checks whether the connection is within a closed user group on the basis of this information (col. 1 lines 7-13).

Regarding claim 19, Salin further discloses the device is a Mobile Switching Center (col. 3 lines 8-14).

Regarding claim 20, Salin further discloses the table of special identifications is arranged in the Mobile Switching Center (col. 3 line 53 through col. 4 line 10).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any response to this action should be mailed to:

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401 Dulany Street
Alexandria, VA 22313

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is (571) 272-8329. The examiner can normally be reached on 8:00Am - 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

Tuan Nguyen
Examiner
Art Unit 2643

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 05/09/2006 with respect to claims 1 and 3-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1- 6, 8-11, 15-21, 23-26, 30-33, and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dankberg et al. (US PAT. 5,596,439 hereinafter "Dankberg") in view of Blount et al. (U.S PUB. 2003/0031279 hereinafter "Blount").

Consider claims 1, 16, and 32, Dankberg teaches detecting signal information in a wireless relaying network, comprising: a first network node storing, as a priori known signal information, previously received signal information representative of a first set of information including at least one data unit to be transmitted in total more than one time over at least one link (col. 4 lines 17-34 and col. 5 lines 1-8); and first network node

detecting at least part of second set of information by interference cancellation based on the received signal information representative of second set of information and at least part of said previously stored a priori known signal information (fig. 6 col. 4 lines 6-34).

Dankberg does not explicitly show that first network node subsequently receiving signal information representative of a second set of information, wherein a transmission of at least one data unit by a second network node interferes with the reception of second set of information.

In the same field of endeavor, Blount teaches first network node subsequently receiving signal information representative of a second set of information, wherein a transmission of at least one data unit by a second network node interferes with the reception of second set of information (page 2 [0011]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, first network node subsequently receiving signal information representative of a second set of information, wherein a transmission of at least one data unit by a second network node interferes with the reception of second set of information, as taught by Blount, in order to provide a relay station is used to aid communication among a network of parties, and more particularly to an improvement allowing more efficient use of the available channel resource.

Consider claims 2 and 17, Dankberg further teaches interference cancellation includes at least one of explicit and implicit interference cancellation (col. 5 lines 45-57).

Consider claims 3 and 18, Dankberg further teaches at least one data unit is to be transmitted in total more than one time over more than one link (col. 2 lines 29-54).

Consider claims 4 and 19, Dankberg further teaches wireless relaying network includes at least one of a wireless multi-hop network, a cooperative relaying network and a repeater-based network (col. 5 line 58 through col. 6 line 19).

Consider claims 5 and 20, Dankberg further teaches wireless relaying network is a wireless multi-hop network (col. 6 lines 11-19).

Consider claims 6, 21, and 33, Dankberg further teaches detecting step involves one of single-user detection and multi-user detection (see fig. 2 col. 1 lines 41-52).

Consider claims 8, 23 and 235, Dankberg further teaches step of detecting at least part of said second set of information comprises the steps of: removing a priori known signal information from the received signal information to generate a residual signal (col. 5 lines 9-11); and processing said residual signal to detect at least part of said second set of information (col. 5 line 58 through col. 6 line 10).

Consider claims 9, 24, and 36, Dankberg further teaches a priori known signal information includes previously received baseband signal information, and said step of detecting at least part of said second set of information comprises the step of jointly

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processing said previously received baseband signal information and subsequently received baseband signal information to detect at least part of said second set of information (see fig. 2 col. 1 lines 41-52).

Consider claims 10, 25, and 37, Dankberg further teaches previously received baseband signal information relate to a number of previous communication instances and the subsequently received baseband signal information relates to the current communication instance (col. 3 lines 21-35), and said previously received baseband signal information and said subsequently received baseband signal information are processed together with complex channel gain information to determine an estimation of at least one detected data packet (col. 4 lines 6-35).

Consider claims 11, 26, and 38, Dankberg further teaches a priori known signal information includes previously received and detected information (col. 2 lines 29-40).

Consider claims 15 and 30, Dankberg further teaches continuously updating said a priori known signal information by incorporating newly detected information and removing outdated signal information (col. 5 lines 45-57).

Consider claim 31, Dankberg further teaches arrangement is implemented in a network node of said wireless relaying network (col. 1 lines 53-60).

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4. Claims 12 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dankberg and Blount in view of Ohki (U.S. PAT. 5,963,559).

Consider claims 12 and 27, Dankberg and Blount in combination, fails to disclose previously received and detected information includes previously overheard information.

However, Ohki teaches previously received and detected information includes previously overheard information (col. 9 lines 31-42).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Ohki into view of Dankberg and Blount in order to provide a method which it is possible to do with no surplus overhead on transmitting frames.

5. Claims 13-14 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dankberg and Blount in view of Amou et al. (U.S. PAT. 7,046,688 herein after "Amou").

Consider claims 13 and 28, Dankberg and Blount in combination, fails to disclose detecting at least part of said second set of information is based on transmission schedule information.

However, Amou teaches detecting at least part of said second set of information is based on transmission schedule information (col. 13 lines 30-45).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Amou into view of Dankberg and Blount in order to provide a packet scheduler which can realize guarantee in bandwidth assignment and fair vacant bandwidth assignment while preventing erroneous operation deriving from deviation of a scheduled packet output time from the real time caused by calculation error in weighted fair queuing calculation.

Consider claim 14, Amou further teaches first set of information includes a number of data packets, and said transmission schedule information includes information on which of the data packets that are to be transmitted when the signal information representative of said second set of information is received such that an appropriate part of said previously stored a priori known signal information is exploited in said detecting step (col. 26 lines 23-40).

Consider claim 29, Amou further teaches first set of information includes a number of data packets, and said transmission schedule information includes information on which of the data packets that are to be transmitted when the signal information representative, of said second set of information is received, and said means for detecting comprises means for selecting, based on said transmission schedule information, an appropriate part of said previously stored a priori known signal information for use in detecting at least part of said second set of information (col. 26

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lines 23-40).

Allowable Subject Matter

6. Claims 7, 22, and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571)272-7882882. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Tuan Nguyen
Examiner
Art Unit 2618

TN


NAY MAUNG
SUPERVISORY PATENT EXAMINER